

Oral Health Education

Grade 4

Objectives:

- I. Importance of teeth
- II. Tooth Structure
- III. Injury Prevention (review from 3rd grade)
- IV. How cavities are formed
- V. Gingivitis
- VI. Prevention
- VII. Nutrition

Materials for this learning module were compiled from the following sources:

American Dental Association, *Smile Smarts* program
United States Department of Agriculture, *My Pyramid for Kids* program
State of North Carolina, Division of Public Health, Oral Health Section
National Institutes of Health, Open Wide and Trek Inside curriculum
State of Montana, Department of Public Health & Human Services, Family & Community Health Bureau

Activities are optional and should be used at the discretion of the school/organization.

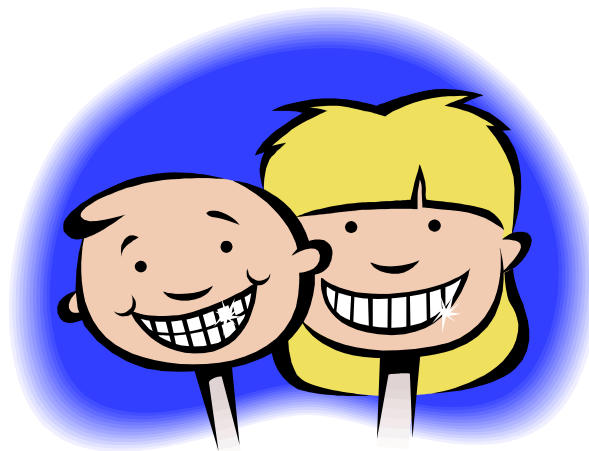
For additional resources, visit:

<http://www.ada.org/public/education/teachers/ideas.asp#classroom>

<http://teamnutrition.usda.gov/resources/mypyramidclassroom.html>

<http://www.communityhealth.dhhs.state.nc.us/dental/>

<http://science-education.nih.gov/supplements/nih2/oral-health/guide/masters.htm>



I. Importance of Teeth

Content Delivery: Guided questions to assess student knowledge and value of oral health. Stress the importance of student analysis regarding the validity of health information available through media, technology as well as family, peer, cultural beliefs.

1. What does the term “valuable” mean to you? What are the characteristics of something with “value”? Relate to a Healthy Body. Students can create a list or brainstorm with the teacher what phrases or terms apply to the value of a healthy body. (Feel good, enjoy activities, looks good, participate in sports, etc.) Relate to Healthy Teeth: (Chew food, Lasts a long time, Help to talk, smile, etc.)

Healthy teeth and mouths are valuable and must be taken care of just like our bodies. At this time in your physical growth and development your first set of teeth, (primary) are coming out and being replaced by a permanent set of teeth that are meant to last a lifetime. They must be valued and cared for.

Start discussion: Why are teeth important? (Talking, Chewing, Smiling)

Talking:

1. Have students volunteer to come up and read a short poem without using their teeth.
2. Compare to student who reads poem using his/her teeth

Chewing

1. Have students make a list of favorite foods
2. Produce some hard snack foods and have volunteers come up and try to eat them without using their teeth.
3. Produce some baby food/soft foods and ask for volunteers to come up and eat them without using their teeth.
4. Reinforce how important teeth are to enjoying daily meals

Smiling:

1. Show pictures of smiling people to students--preferably people from magazines they perceive to be good looking.
2. Color teeth black and show students how these people would look without teeth. Your teeth and mouth are important aspects of your appearance.

II. Tooth Structure

What Teeth are Made of:

Enamel— Enamel covers the crown, the section of tooth above the gumline. This hard material of the tooth is composed of calcium, phosphorus, and other mineral salts.

Dentin—Hard tissue that forms the body of the tooth, it is also the material in the majority of the tooth.

Cementum—bone-like tissue that covers the root.

Pulp—“living core” in the center of the tooth, contains nerves and blood vessels

Gum tissue—soft tissue which covers and protects roots of teeth and surrounding bone.

Activity:

Show handout of tooth structure, have students recreate flat image with colored clay:

- White for enamel
- Yellow for dentin
- Brown/gray for cementum
- Red for pulp

III. Injury Prevention (review from grade 3)

The problem with teeth is that if we injure them, they won't heal on their own, like a scraped knee will heal. If we chip a tooth, it won't repair itself. The dentist will have to help!

Review:

- A person gets two sets of teeth during their life: baby teeth (or primary teeth) and adult teeth (or permanent teeth).
- Children get 20 baby (primary) teeth.
- We lose our baby teeth to make room for our adult teeth because we need bigger, stronger teeth
- You will have 32 adult (permanent) teeth.
- Your adult teeth are made to last for your whole adult life if you take good care of them.

If you lose a permanent tooth, another one will NOT grow back in its place!

We can prevent injury to our teeth by:

- Preventing falls
 - Walk don't run
 - Pick things up off the floor
- Don't use teeth for jobs they aren't intended for
 - Chewing pencils
 - Opening bottles
 - Crunching ice
- Being careful when playing sports
- No pushing or shoving—especially at the drinking fountain
- Wearing your seatbelt while in the car

What to do if a tooth is loosened

The first thing to do is

- Tell your parent, teacher or the school nurse
- Call the dentist

What if a tooth is knocked out?

- Find the tooth and pick it up.
- Go right away to a parent, teacher or nurse.
- Do NOT clean the tooth off or touch the wound site.
 - (Cleaning it may remove important gum tissue that helps the tooth grow in the mouth.)
- Keep the tooth wet.
 - (Put it in a glass of cool water, milk or a wet cloth)
- Call the dentist right away.
 - (You should be seen within 30 minutes)
- The dentist will put the tooth back into place if it is possible.

Questions/Activities:***Can anyone tell me:***

- Two reasons why you need your teeth?
- Two ways you can injure (hurt) your teeth?
- Two ways the dentist can fix an injured (hurt) tooth?
- What you should do if a tooth is knocked completely out?

Let students dialogue on the above questions.

Activities:

1. Display a mouth guard and let students touch it
2. Show how mouth guard protects teeth by dropping an egg without protection and then dropping an egg with protection. After feeling the mouth guard, have students brainstorm what would provide the egg with good protection. Have them bring materials from home they think will protect their egg and redo the experiment with protection for the eggs.
3. Recreate scenes where a tooth is knocked loose and a tooth is knocked out to reinforce the proper steps to take in each situation.

IV. How cavities are formed (may read example from Open Wide and Trek Inside)

What happens to teeth when they are not cared for? (Cavities, gum disease, injuries such as broken or lost teeth, injuries to the jaw, gums, and tongue.) ***What are cavities and what can be done by you, your family, and healthcare professionals to prevent getting cavities?*** (A cavity is tooth decay, which occurs when germs and bacteria cause an infection. This leads to a small hole in the tooth that can continue to get larger and spread to other teeth if not properly cared for resulting in the possibility of losing one or more teeth.)

Plaque

Does anyone know what causes cavities? [You may get a variety of answers, but they may not include plaque.] ***Those are all interesting answers, but there is one thing that plays a big part in causing decay, or cavities, in your teeth. It is called “plaque.”*** [Write “plaque” on chalkboard.] ***Sound familiar? If you don’t brush your teeth before you go to bed at night, how does your mouth feel when you wake up in the morning?*** [Tastes bad, smells bad, teeth feel sticky.] ***That is because plaque has been forming in your mouth all night. Plaque is a sticky, clear film that is forming on your teeth all the time.***

How plaque contributes to decay. Plaque is bad for your teeth because it contains germs. When you eat or drink sugary or starchy foods, the sugars and plaque mix together to make an acid. The acids in your mouth attack your tooth enamel — the hard outer layer of each tooth — and can cause decay. Each acid attack can last 20 minutes, making cavities bigger and bigger.

Plaque Review: Write the word on the board and ask students to define plaque and what role it plays in tooth decay. Sugars and germs in plaque mix to form an acid. **SUGAR + BACTERIA = ACID**. When we eat, the PH in our mouths lowers for about 20 minutes allowing this acid to break down the minerals on the teeth creating cavities. As this process is repeated, tooth decay can continue to occur.

Let’s do a demonstration to help us understand how acid works on teeth.

Activity

To demonstrate the effect of plaque and acid on the tooth surface: Place a TUMS tablet in each of two paper cups. Cover one tablet with vinegar; cover the other with water. Wait five minutes and empty the liquid out of the cups. What has happened to the tablets? The one in the vinegar has dissolved much faster than the one in plain water because vinegar is an acid. Both the Tums tablet and a tooth contain calcium, and calcium dissolves more readily in acid than water. (Suggestion: Using the scientific method format, describe the experiment to students. Following inserting tablet into solutions, ask students to write what they think will happen to the TUMS tablet after five minutes. When the solution is drained from each cup, students can write about the results and discussion.)

Egg Shell experiments

Conduct demonstrations to show the effect of acid on tooth enamel.

Background:

The egg serves as a model for a tooth. The shell of an egg is hard like the outer surface of a tooth but is soft on the inside like a tooth. A model is not identical to the real object but we can still learn from the information gathered during the experiment. Using models can help us make predictions about real life situations. Ask: Can you think of any other experiments that are done using models? (crash test dummies, medicines on mice, etc.)

This experiment simulates the negative effects of acid attacks.

Materials:

- 2 eggs
- water
- 1 bottle of white vinegar
- 2 containers

Procedure:

Pour four+ inches of vinegar into one of the containers and then place an egg in the vinegar. Pour four+ inches of water into the remaining container. Let eggs sit in the vinegar and the water for 24 hours.

What will happen:

Have the students feel the shells and discuss what happened. Have a student try to poke a non-sharpened pencil through the egg shells. Which one was easier to penetrate? Explain that acids in the mouth eventually dissolve minerals in tooth enamel, making it soft, just as the vinegar dissolved minerals in the egg shell. Be sure to throw away the eggs after you're finished.

Additional activity: Demonstrate the effects of different liquids on your teeth. Materials needed: 4 hard boiled eggs, can of coke, carton of orange juice, bottle of vinegar, water and 4 small jars with lids. Ask children to predict what do they think will happen to the egg shell if it is left overnight in different substances. Allow each child to set up one substance in a jar with one egg. Water is the control. Place jars of eggs in a box and place by window. Check the next day. The vinegar will eat the shell and it will become soft. The orange juice ate at the shell making it bumpy. The coke stained the egg brown. The teacher or students can try to restore the egg by brushing with a tooth brush and toothpaste. It will not help the orange juice, or vinegar egg. It will clean up some of the Coke egg but may not remove all the stains.

Make sure that students know that cavities CANNOT go away by themselves. They MUST be fixed by a dentist!!!

V. Gingivitis


What is **gingivitis**? That is when bacteria attack your gums! Some signs of gingivitis are gums that are red, sore, puffy and bleeding. Sometimes the gingiva become sore when infected with gingivitis and sometimes they are not sore. Gingivitis is the first state of a disease called periodontal disease. Periodontal disease causes the loss of even more teeth than dental caries (cavities). Bacterial Plaque + gingiva (gums) = gingivitis. Plaque really builds up on teeth around and under the gum. The bacteria in the plaque produce poisons that irritate the gingiva. As plaque continues to build up, the bacteria nearest the tooth die and harden into a layer called tartar or calculus. Calculus (tartar) also irritates the gingiva. Healthy gingival are pink, stippled or slightly dimpled like orange peels, and fit tightly around the teeth. They do not bleed when you brush or floss. Students can examine their own gums for signs of gingivitis with hand mirrors, and discuss.

VI. Prevention




What are some of the ways that you can take care of your teeth to prevent injuries and to keep them healthy? (Brush, floss, fluorides, nutritious foods, drink water, dental/dental hygiene visits, mouth guard for sports and activities, avoid habits like tobacco use, chewing on hard objects, etc.) Students can work in small groups to identify the various methods of care and prevention. Groups can discuss family, peer, and cultural beliefs that apply to the care of teeth and mouths as part of healthy bodies. How does the use of tobacco products affect the mouth/body? Mouth guards protect the jaw from injury and are used for any contact sport or activity including cheerleading, baseball, hockey, etc. Your dentist can make one for you of soft, molded plastic to fit over your teeth.

Plaque and Decay

Plaque—a nearly colorless film on teeth, contains acid-producing bacteria that cause decay.

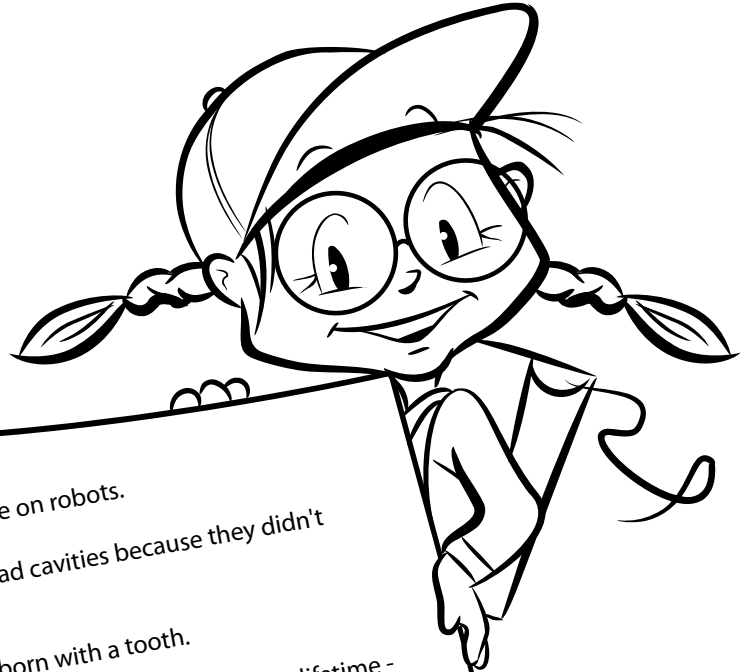
-  Each time we eat foods with sugar or starch, these bacteria produce acids that attack tooth enamel for at least 20 minutes.

Decay—after repeated attacks, a hole (or cavity) can form through dissolved enamel. You can help prevent decay and cavities through:

-  Daily brushing, flossing and rinsing
-  Healthy eating
-  Regular dental checkups

February is National Children's Dental Health Month

Flossy's Big Book of Dental Trivia



Dental students in Japan practice on robots.

Prehistoric kids almost never had cavities because they didn't eat sugar.

One in every 2,000 babies is born with a tooth.

The average human produces 25,000 quarts of spit in a lifetime - enough to fill two swimming pools.

Cats have 30 teeth and dogs have 42.

Close to 3 million miles of dental floss is purchased in the United States every year.

The Statue of Liberty's mouth is three feet wide.

An elephant's tooth can weigh more than six pounds!

Every person has a unique tongue print.

It takes 17 muscles to smile but 43 to frown.

Teeth are as unique as fingerprints! Even identical twins have different dental patterns.

The first electric toothbrush was sold 40 years ago.

People don't chew up and down; they chew side to side just like cows chew!

An ape has teeth shaped just like a human's.

Can you find more fun dental facts?

Visit ADA.org and the Dr. Samuel D. Harris National Museum of Dentistry website, www.dentalmuseum.org to learn more.

Scientific Method: Protect the Egg Experiment

Ask a Question

How can you protect the egg? _____

Construct a Hypothesis

"If _____[I do this] _____, then _____[this]_____ will happen."

We hypothesize that the egg will be protected if we _____

Test Hypothesis by conducting an experiment (conduct egg experiment)

Height from which control egg was dropped: _____

Height from which "protected egg" was dropped: _____

Analyze your data and draw a conclusion

Results

Unprotected egg: _____

Protected egg: _____

Conclusion: _____

Communicate your results

What have you learned? _____

How does the egg compare to your teeth and the "protection" to a mouth guard?



Scientific Method: Egg Experiment with Vinegar

Ask a Question

What creates an acid attack in your mouth? _____

What do you think happens to your teeth when there are acids in your mouth? _____

Do Research-- Review information on acid attacks on your teeth.

Observe the eggshell. Is it hard or soft? How is the egg like a tooth? _____

Construct a Hypothesis

"If _____[I do this] _____, then _____[this]_____ will happen."

We hypothesize that the eggshell in vinegar will _____

We hypothesize that the eggshell in water will _____

Test Hypothesis by conducting an experiment (conduct egg experiment)

Date and time investigation started _____

Date and time finished: _____

Analyze your data and draw a conclusion

Results

Eggshell in vinegar: _____

Eggshell in water: _____

Conclusion: _____

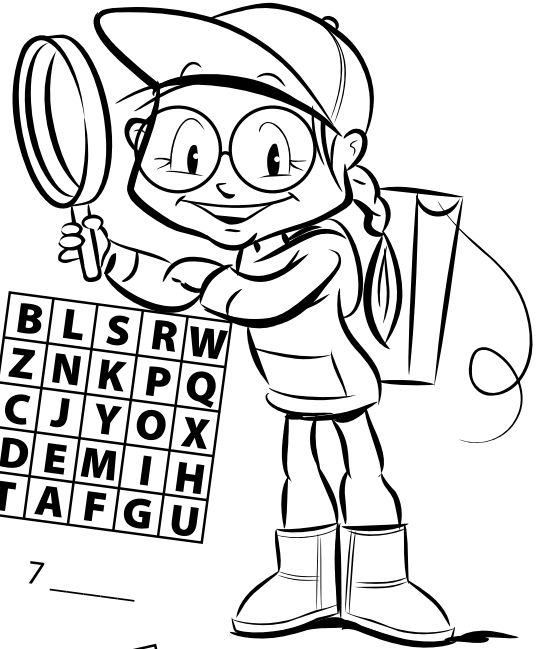
Communicate your results

What have you learned? _____

February is National Children's Dental Health Month

Eye Spy!

Find the one letter of the alphabet that is missing in each grid and write it on the line underneath. Then transfer those letters to the correct line at the bottom of the page and decode Flossy's message!



N	O	P	S	T
X	M	R	W	Z
L	K	G	V	Y
C	J	I	U	F
Q	B	H	E	D

12 _____

N	Q	E	Y	T
L	K	O	C	Z
D	F	V	J	P
B	U	M	W	I
S	G	A	H	X

9 _____

P	Y	O	L	T
V	K	X	Q	M
G	R	N	W	I
E	J	F	H	C
Z	B	A	U	D

4 _____

B	L	S	R	W
Z	N	K	P	Q
C	J	Y	O	X
D	E	M	I	H
T	A	F	G	U

7 _____

S	L	D	I	T
J	G	K	F	H
M	O	X	R	P
Q	B	W	N	Z
A	Y	V	C	U

6 _____

H	T	P	O	W
U	K	X	R	S
N	V	Q	Y	L
C	A	B	J	Z
G	M	I	D	E

1 _____

K	H	V	Z	P
G	W	R	S	T
J	F	E	N	C
I	D	X	Q	U
Y	A	B	M	L

3 _____

H	S	L	O	T
D	K	P	F	Q
X	J	N	I	A
G	C	V	W	B
Z	U	M	Y	R

8 _____

D	I	A	O	Q
E	J	F	V	T
B	X	R	Z	W
C	M	H	U	S
P	N	G	L	K

10 _____

U	H	O	E	M
J	K	B	D	X
N	V	Y	L	W
I	T	F	P	C
G	Z	A	R	Q

5 _____

I	N	J	C	S
F	E	G	P	W
R	Q	V	Y	Z
K	T	H	B	X
L	M	O	U	A

11 _____

J	G	D	X	E
A	T	F	R	M
H	K	S	Z	O
U	N	C	P	I
L	W	Q	V	B

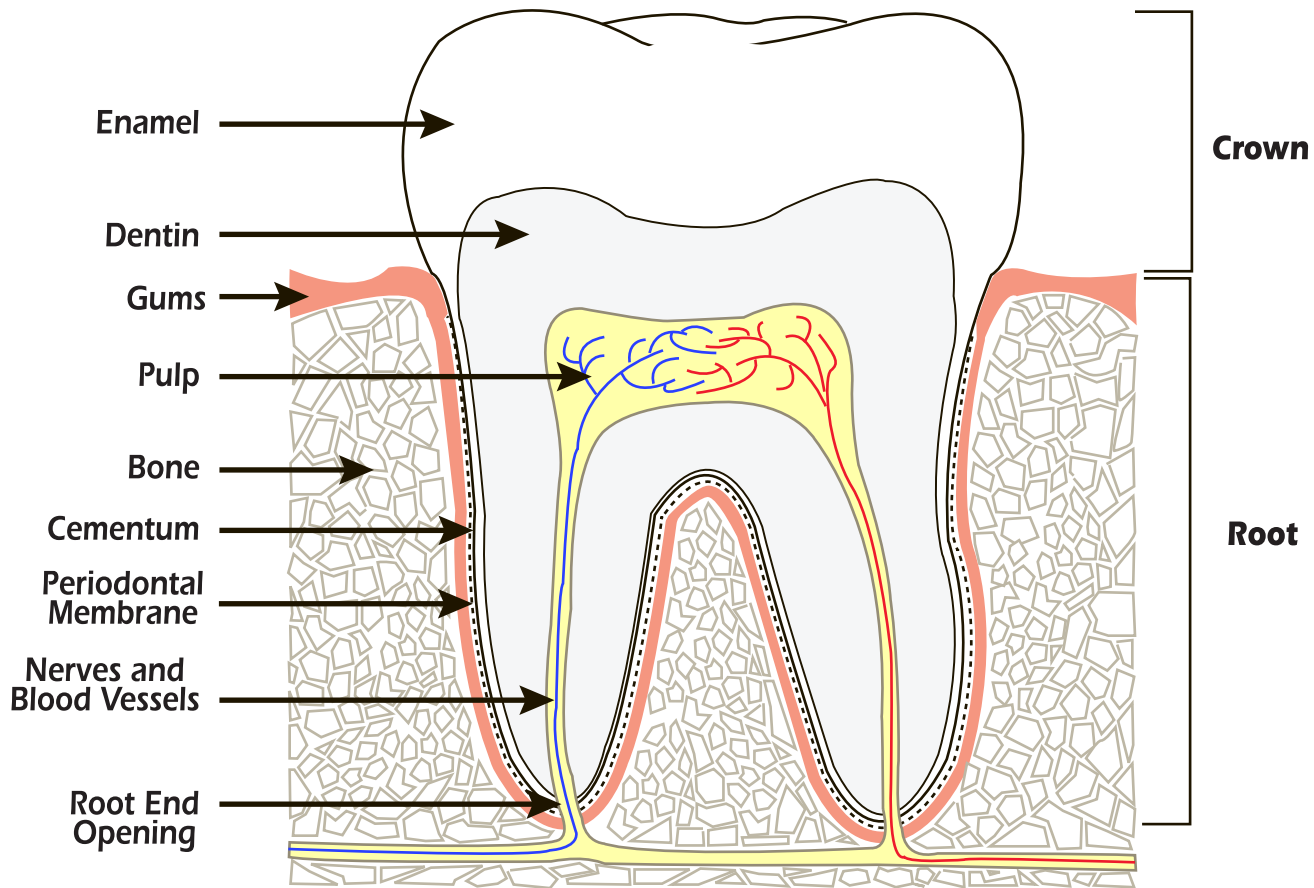
13 _____

E	B	K	N	O
M	F	H	P	T
R	A	Q	G	Y
D	S	J	C	W
U	Z	X	V	I

2 _____

_____!
1 2 3 4 5 6 7 8 9 10 11 12 13

Tooth Anatomy



Humans have two sets of teeth, the primary teeth (commonly called baby teeth) and the permanent teeth.

Children have 20 primary teeth; they are replaced by the permanent teeth by about age 13. Adults have 32 permanent teeth.

Tooth Glossary:

Cementum - a layer of tough, yellowish, bone-like tissue that covers the root of a tooth. It helps hold the tooth in the socket. The fibers of the periodontal membrane are embedded within the cementum.

Crown - the visible part of a tooth. What you see is the tooth enamel.

Dentin - the hard but porous tissue located under both the enamel and cementum of the tooth.

Enamel - the hard, shiny, white outer surface of the tooth. Tooth enamel is the hardest substance in the human body.

Gums - the soft tissue that surrounds the roots of the tooth.

Nerves - nerves transmit signals to and from the brain. This lets you feel things like hot, cold, and pain.

Periodontal membrane/ligament - the strong, fleshy tissue between tooth and the tooth socket that holds the tooth in place. The fibers of the periodontal membrane are embedded within the cementum.

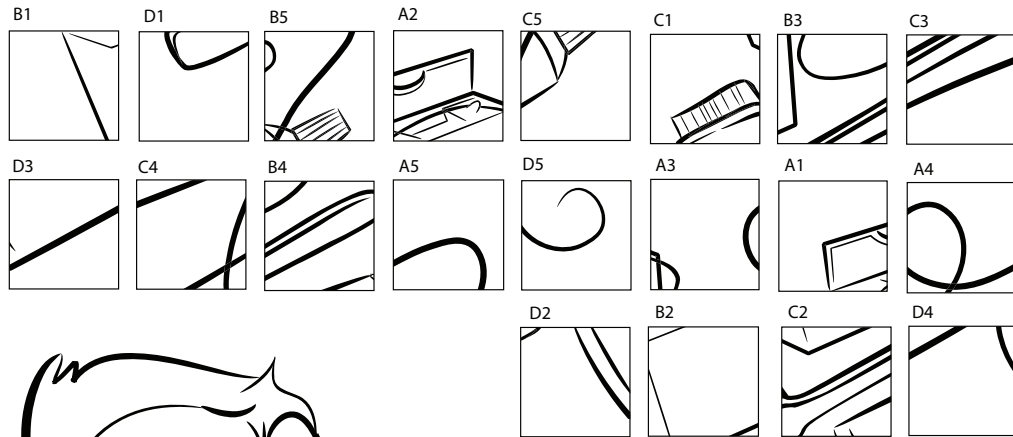
Pulp - the soft center of the tooth. The pulp contains blood vessels and nerves; it nourishes the dentin.

Root - the anchor of a tooth that extends into the jawbone. The number of roots range from one to three.

February is National Children's Dental Health Month

Secret Drawing

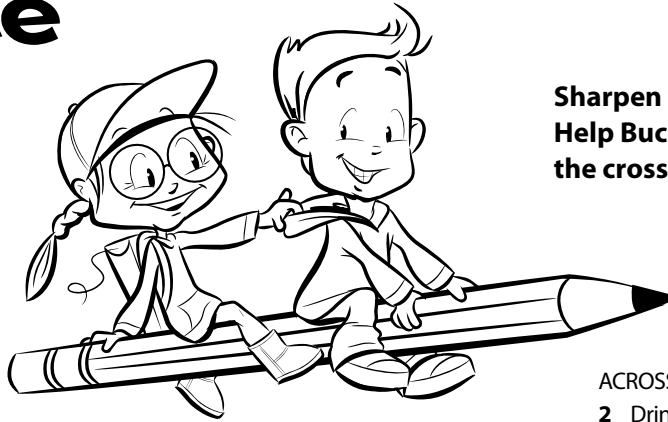
Buck is such a cut up! Can you help him put his picture back together?
Use the letter-number guide above each square and carefully draw what
is shown into the correct square below.



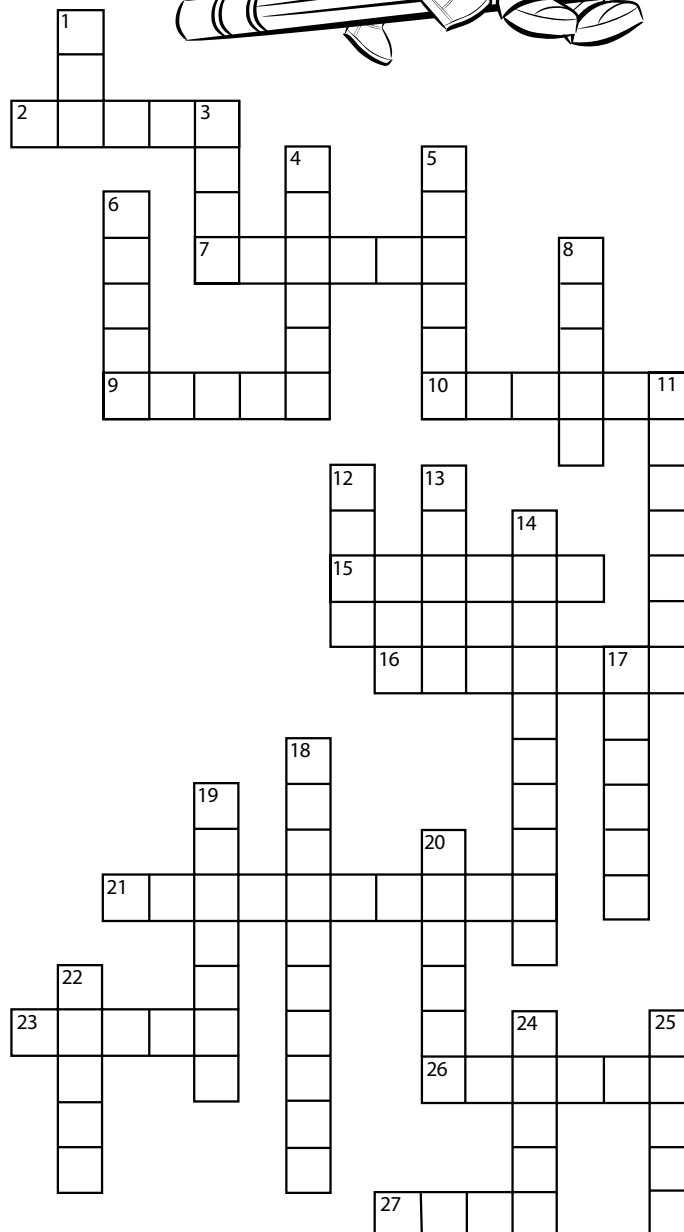
	1	2	3	4	5
A					
B					
C					
D					

February is National Children's Dental Health Month

Crossword Puzzle



**Sharpen your pencils!
Help Buck and Flossy complete
the crossword puzzle!**



ACROSS

- 2 Drink this instead of soda pop.
- 7 A _____ hygienist cleans your teeth at the dentist's office.
- 9 Grin
- 10 Limit between meal _____.
- 15 A dentist uses this to help see all your teeth.
- 16 Visit your _____ regularly
- 21 Broccoli and carrots are nutritious _____.
- 23 The part of a tooth that you can see is called the _____.
- 26 The hard outer layer of a tooth.
- 27 Your first teeth.

DOWN

- 1 Use only a _____-sized amount of toothpaste when you brush.
- 3 Flossy loves to _____ books.
- 4 Don't forget to brush your _____.
- 5 _____ are the teeth in the back of your mouth used for grinding food.
- 6 Flossy and Buck are _____.
- 8 Brush your teeth at least _____ a day.
- 11 What your dentist applies to protect teeth from decay.
- 12 They hold your teeth in place.
- 13 Most kids have all their baby teeth by the time they are _____ years old.
- 14 Use this to keep teeth clean.
- 17 Buck loves to play _____.
- 18 Wear this to protect your smile while playing sports.
- 19 Buck and Flossy's last name is _____.
- 20 If not removed, can lead to cavities.
- 22 Pictures of your teeth.
- 24 Only eat sparingly to keep your smile healthy.
- 25 Clean between your teeth with dental _____.

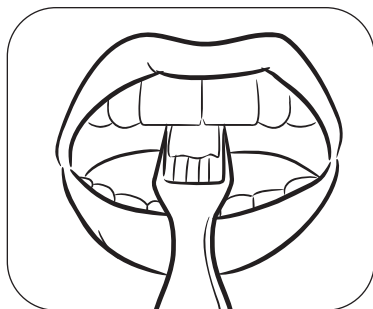
How to Brush



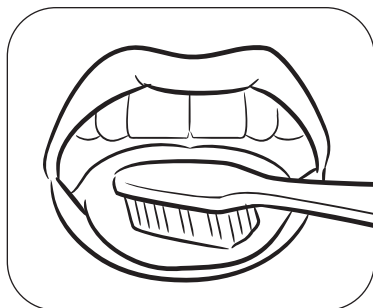
- Place the toothbrush at a 45-degree angle to the gums.



- Move the brush back and forth gently in short strokes.
- Brush the outer surfaces, the inside surfaces and the chewing surfaces of all teeth.

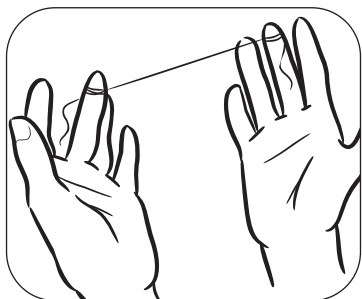


- To clean the inside surface of the front teeth, tilt the brush vertically and make several up-and-down strokes.

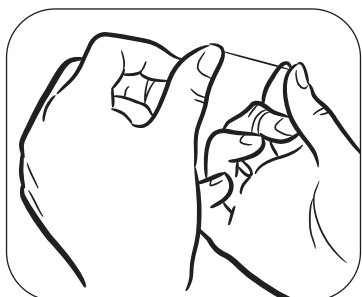


- Brush your tongue to remove bacteria and keep your breath fresh.

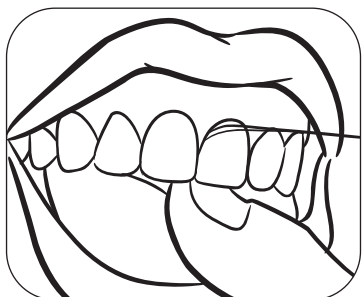
How to Floss



- Use about 18 inches of floss wound around one of your middle fingers, with the rest wound around the opposite middle finger.



- Hold the floss tightly between the thumbs and forefingers and gently insert it between the teeth.



- Curve the floss into a "C" shape against the side of the tooth.



- Rub the floss gently up and down, keeping it pressed against the tooth. Don't jerk or snap the floss.



- Floss all your teeth. Don't forget to floss behind your back teeth.

Open Wide and Trek Inside

[Main](#)
[Getting Started](#)
[Teacher's Guide](#)
[Student Activities](#)
[About NIH and NIDCR](#)
[Glossary](#)
[Map](#)
[Contact](#)

Animals Do More Than Eat and Drink

Animals live almost everywhere on Earth. Some animals are very large, and some animals are very, very, very, very small. What do all animals do to survive?

All animals eat some kind of food, and all animals take in water. Do you onto your teeth and helps them trap know what else animals do? Listen to this story and find out.

Polar bears live in the icy, northern part of the world. They eat meat like fish and seals. They make baby polar bears. All polar bears poop.



Gerbils live in burrows in high deserts and prairies. They eat seeds and parts of plants. They make baby gerbils. All gerbils poop.

Guppies live in ponds. They eat mosquito larvae and other tiny bugs. They make baby guppies. All All guppies poop.



Earthworm live in the soil. They eat decaying stuff in the dirt. They make baby earthworms. All earthworms poop.

Bacteria live in your mouth. Wait a minute! I have bacteria living in my MOUTH? What are bacteria doing in my mouth? Are you sure?

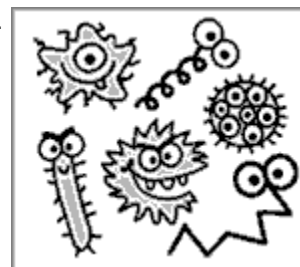
Some bacteria live where it is dark and warm and wet. Some of those bacteria live in your mouth. **What do you think they eat?**



Some bacteria eat what you eat. They eat peanut butter and jelly sandwiches, macaroni and cheese, and pizza.

But, do you know what they are really good at eating?

Just like most kids, the bacteria in your mouth are really good at eating candy!



Bacteria live in your mouth. Some of them eat what you eat. **Do they make other bacteria?**

These bacteria do make other bacteria. They make even more bacteria when they get sweet things to eat.

So, bacteria live in your mouth. Some of them eat what you eat. They make other bacteria. **Do the bacteria poop? In your MOUTH?**

Well, other animals, like polar bears, gerbils, guppies, and earthworms, poop. But, what is poop, really? What we call "poop" is a **waste product**. All All guppies poop. animals produce some kind of waste product because their bodies cannot use all the parts of the foods they eat. After they eat, bacteria produce an **acid**. The acid is the bacteria's waste product,



or its poop.

So let's review.

Bacteria live in your mouth. Some of them eat what you eat. They make other bacteria. Some bacteria produce acid. In your MOUTH? Yes, bacteria produce acid in your mouth.

What happens to the acid the bacteria produce?

If the acid stays on your teeth, it can make holes in your teeth. Here is how it works.

Since the day you were born, different kinds of bacteria have lived in your mouth—and in every person's mouth. The bacteria are very, very, very, very tiny. You cannot see them with your eyes.

When you eat and drink something, the bacteria that live on and around your teeth and gums eat tiny bits of the food that is in your mouth. They even have ways to save some of the food to come back to and snack on later!

Some of the bacteria help you stay healthy, but some of the bacteria produce acid that can cause cavities in your teeth.

The bacteria live together, in groups called colonies, all around your teeth and gums. They make some gluey stuff that holds them onto your teeth and helps them trap very small pieces of food you eat. Have you ever noticed that you can scrape some white stuff off your teeth when you wake up in the morning or before you go to bed at night? That stuff is called **plaque**. That's where the bacteria live. Plaque is kind of like a net that helps the bacteria catch and hold on to food for them to eat.



After the bacteria eat, they produce acid. The plaque holds the acid against the surface of your teeth. The acid can make holes in your teeth if it is held there for a long enough time. When you eat sugary foods, the bacteria make a lot more acid. They also make a lot more bacteria. More bacteria produce more acid. More acid on your teeth can cause more decay.

Now, do you know why it is important for you to brush your teeth and eat healthy, not sugary, foods?

[Copyright](#) | [Credits](#) | [Accessibility](#)



Put a happy face in the box when you brush twice each day.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div><div></div><div>☺</div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<div><div></div><div>☺</div></div>						
<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>



Teeth to Treasure!

Word Search

See how many words you can find in 20 minutes!

Words go across, up, down, and diagonal.

D	C	V	M	S	S	R	J	E	G	S	D	K	F	S
C	S	X	O	S	M	R	Y	T	F	V	L	R	S	T
Q	B	T	O	N	G	U	E	S	G	I	U	E	O	E
H	R	C	X	I	P	L	G	A	M	I	L	B	U	S
R	S	P	T	A	J	I	I	P	T	B	A	Q	L	L
F	L	U	O	R	I	D	E	H	A	C	A	S	O	M
T	P	F	R	G	D	G	F	T	C	L	A	E	Y	S
L	H	Q	T	B	K	E	E	O	P	Y	X	A	F	T
K	E	C	H	T	H	G	N	O	K	W	S	L	L	A
K	W	M	J	X	E	T	H	T	O	O	T	A	O	E
E	D	H	A	V	I	T	O	Z	I	D	C	N	S	M
B	J	X	D	N	P	U	S	O	X	S	A	T	S	E
S	G	M	C	M	E	S	G	N	T	W	T	I	R	E
D	R	A	U	G	H	T	U	O	M	L	I	Y	L	T
Y	T	I	V	A	C	U	H	F	S	Z	X	E	O	Y

CAVITY

DAILY

DENTIST

ENAMEL

FLOSS

FLUORIDE

FRUIT

GRAINS

GUMS

MEAT

MILK

MOUTHGUARD

PLAQUE

SEALANT

TOBACCO

TONGUE

TOOTH

TOOTHBRUSH

TOOTHPASTE

VEGETABLES

NUTRITION



A Close Look at MyPyramid

For Kids

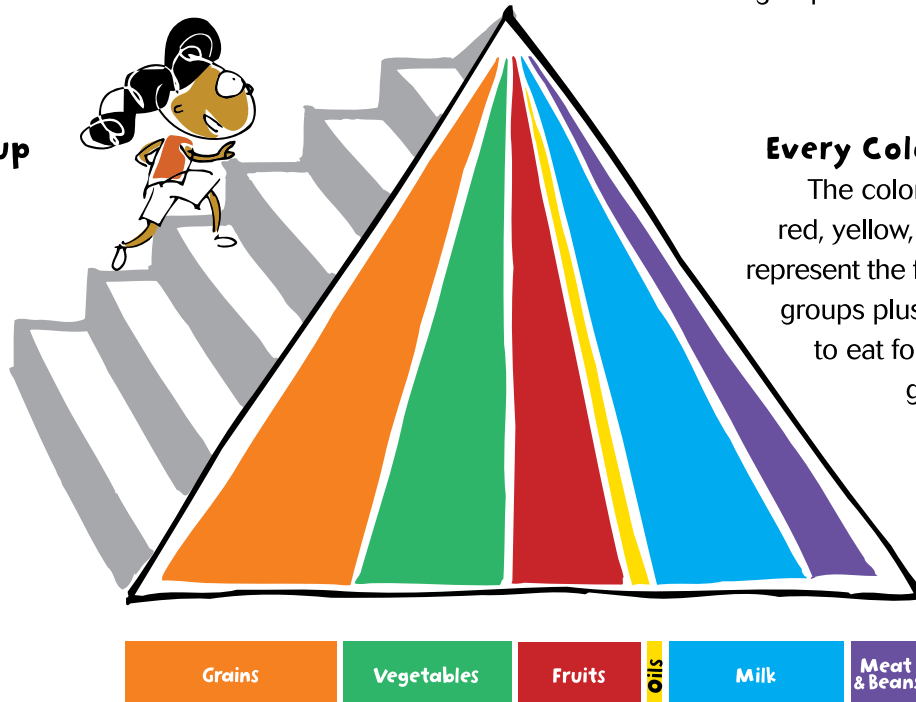
MyPyramid for Kids reminds you to be physically active every day, or most days, and to make healthy food choices. Every part of the new symbol has a message for you. Can you figure it out?

Be Physically Active Every Day

The person climbing the stairs reminds you to do something active every day, like running, walking the dog, playing, swimming, biking, or climbing lots of stairs.

Choose Healthier Foods From Each Group

Why are the colored stripes wider at the bottom of the pyramid? Every food group has foods that you should eat more often than others; these foods are at the bottom of the pyramid.



Eat More From Some Food Groups Than Others

Did you notice that some of the color stripes are wider than others? The different sizes remind you to choose more foods from the food groups with the widest stripes.

Every Color Every Day

The colors orange, green, red, yellow, blue, and purple represent the five different food groups plus oils. Remember to eat foods from all food groups every day.

Make Choices That Are Right for You

MyPyramid.gov is a Web site that will give everyone in the family personal ideas on how to eat better and exercise more.

Take One Step at a Time

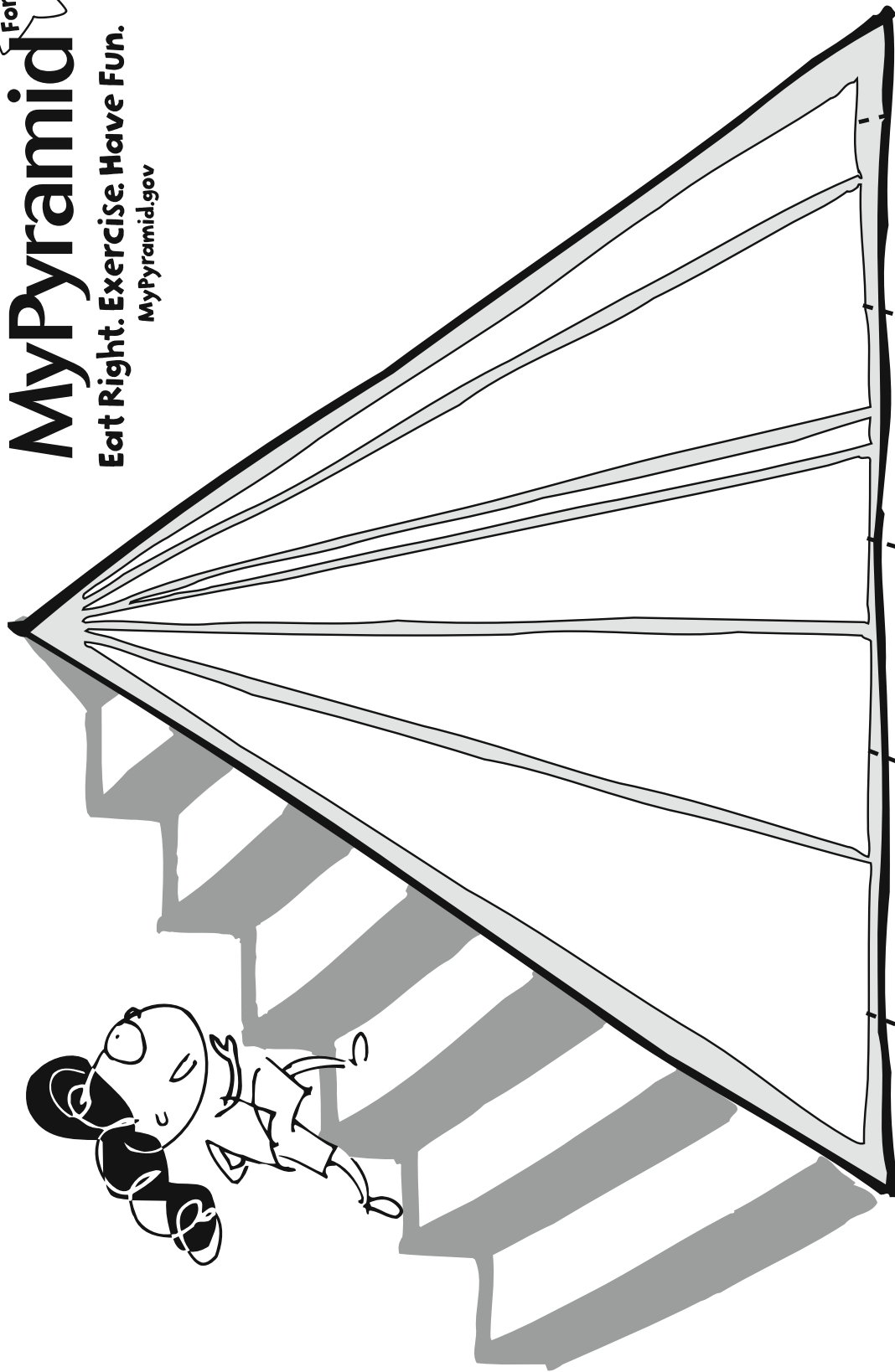
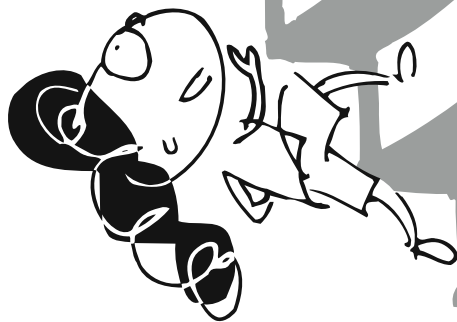
You do not need to change overnight what you eat and how you exercise. Just start with one new, good thing, and add a new one every day.

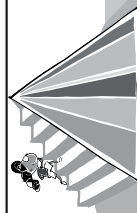


MyPyramid

Eat Right. Exercise. Have Fun.

MyPyramid.gov







Lesson 2:

Food Math

Lesson Highlights

Objective

Students will:

- Add and subtract fractions as they calculate how much of various food groups they need to meet the *MyPyramid for Kids* recommendations.
- Create a daily menu based on the *MyPyramid for Kids* recommendations.
- Discuss the importance of eating fruits and vegetables.

Curriculum Connections:

Math, Language arts, Music

Student Skills Developed:

- Math skills – adding and subtracting fractions
- Creative writing
- Song development

Materials Needed:

- *Food Math* worksheet for each student
- Paper and pencils to use in creating their day's menu
- (Optional) Glass measuring cup, cut raw fruits or vegetables to fill measuring cup to 1-cup line
- (Optional) Paper plate for the fruits or vegetables.

Getting Started:

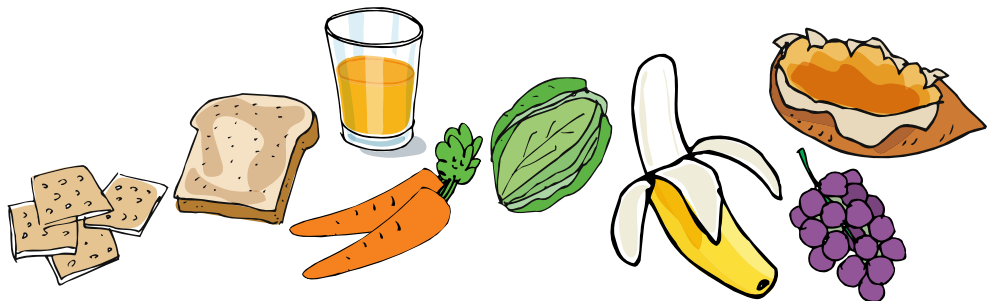
Have students look at the *MyPyramid for Kids* poster. Point out that *MyPyramid for Kids* tells how much of each food group to eat; *MyPyramid for Kids* gives the amounts for each day in ounces and cups. Grains and meats are weighed in ounces. For example, a piece of bread is 1 ounce, so is a cup of ready-to-eat breakfast cereal or one small tortilla. A small chicken breast half is 3 ounces. Vegetable, fruit, and milk amounts are given in cups. For example, one small apple, about 12 baby carrots, and an 8-ounce glass of milk count as 1 cup equivalent.

You may want to help students understand what 1 cup of vegetables or fruit looks like. Put food in a measuring cup, then pour out onto a paper plate. Or, mention that a baseball is about the size of 1 cup and a small computer mouse is $\frac{1}{2}$ cup.

Ask students to estimate how many fruits and vegetables they eat in a typical day. Point out that most students their age should eat more foods from these food groups. They are high in nutrients.

Activity: Food Math

- **Have students work in pairs. Hand out the *Food Math* worksheet.** Tell students they are going to choose foods they think would make a healthy menu for a day for Jason. Their menu should include breakfast, lunch, dinner, and a snack.
- **The menu they create must include the right amount of food from all the food groups.** For one day, that would be: 6 ounces of grains, $2\frac{1}{2}$ cups of vegetables, $1\frac{1}{2}$ cups of fruit, 3 cups of milk, and 5 ounces of meat or beans. (This amount of food is based on 1,800 calories, the estimated energy requirement for a moderately active 9- to 10-year-old.) Before students begin work, review each of the food groups and the amounts needed.



- **Have them write their menu on a sheet of paper** including the amount of food for each entry and the totals for each group along the bottom of the sheet.
- **Discuss students' choices and have them check their math.** Also have students check to see whether half their choices from the grain group are whole grains. Did they choose any dark green or orange vegetables?

(Note to teacher: Food Math will help prepare students to play the MyPyramid Blast-Off game on the enclosed CD ROM.)

Group Activity: Be Hip-Hop Healthy

Divide students into groups. Have each group write a rap (at least eight lines long) about the importance of eating from all the food groups. Have the group come up with movements that go along with their rap. Groups should perform their raps for the entire class. Then post a written copy of the rap on your bulletin board. (To help the students get started, you can use the Power Panther™ songs on the enclosed CD ROM that have a "hip-hop" beat.)



Lunchroom Link:

Invite a staff member from your school foodservice program to talk about how they create balanced menus and determine the amount of each food to serve. (Have the students work with the lunchroom staff to plan a menu and then announce over the PA system when the menu is served, recognizing the students' efforts.)

Food Math

Jason is 9 years old. He's physically active sometimes. Each day, he needs to eat:

Grains
6 ounces

Vegetables
2½ cups

Fruit
1½ cups

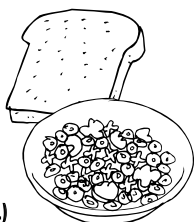
Milk
3 cups

Meat and Beans
5 ounces

Help Jason decide what to eat today. Plan breakfast, lunch, dinner, and a snack. Be sure he gets all the food he needs from each group. (Food items may be selected more than once.)

Grains 6 ounces

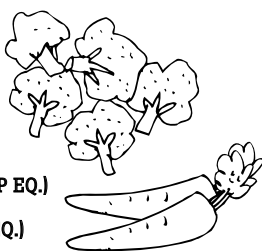
- ___ 1 slice whole-wheat toast* (1 OZ EQ.)
- ___ 5 whole-wheat crackers* (1 OZ EQ.)
- ___ 1 slice white bread (1 OZ EQ.)
- ___ 1 slice whole-wheat bread* (1 OZ EQ.)
- ___ 1 cup whole-grain ready-to-eat breakfast cereal* (1 OZ EQ.)
- ___ ½ cup cooked brown rice* (1 OZ EQ.)
- ___ 1 cup cooked pasta (2 OZ EQ.)
- ___ 1 hamburger bun (2 OZ EQ.)
- ___ 3 cups lowfat popcorn* (1 OZ EQ.)



Items marked with a * are whole-grain

Vegetables 2½ cups

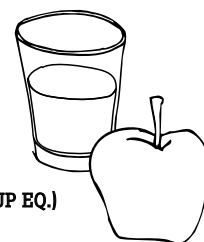
- ___ 6 baby carrots* (½ CUP EQ.)
- ___ 1 large ear of corn (1 CUP EQ.)
- ___ 1 medium baked potato (1 CUP EQ.)
- ___ 1 cup cooked greens* (1 CUP EQ.)
- ___ 1 large baked sweet potato* (1 CUP EQ.)
- ___ 3 spears broccoli* (1 CUP EQ.)
- ___ ½ cup tomato juice (½ CUP EQ.)
- ___ 1 cup chopped lettuce (½ CUP EQ.)



Items marked with a * are dark green or orange vegetables

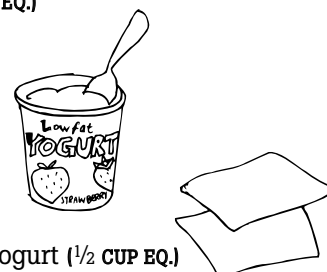
Fruits 1½ cups

- ___ 1 small apple or ½ large apple (1 CUP EQ.)
- ___ 1 large orange (1 CUP EQ.)
- ___ 1 snack-sized container of peaches (½ CUP EQ.)
- ___ 1 large plum (½ CUP EQ.)
- ___ 1 small box raisins (½ CUP EQ.)
- ___ 1 cup 100% orange juice (1 CUP EQ.)
- ___ 1 medium wedge cantaloupe (½ CUP EQ.)
- ___ 1 small wedge watermelon (1 CUP EQ.)



Milk 3 cups

- ___ ½ cup lowfat or fat-free cottage cheese (¼ CUP EQ.)
- ___ 1 cup fat-free milk (1 CUP EQ.)
- ___ 1 snack-sized lowfat or fat-free yogurt (½ CUP EQ.)
- ___ 1 half-pint container 1% or 2% milk (1 CUP EQ.)
- ___ 2 ounces of lowfat or fat-free American cheese (1 CUP EQ.)
- ___ 1½ ounces of lowfat or fat-free cheddar cheese (1 CUP EQ.)
- ___ 1½ cups light ice cream (1 CUP EQ.)

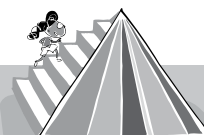


Meat and Beans 5 ounces

- ___ 1 ounce of nuts (2 OZ EQ.)
- ___ 1 cup split pea soup (2 OZ EQ.)
- ___ 1 small chicken breast half (3 OZ EQ.)
- ___ 1 small lean hamburger (3 OZ EQ.)
- ___ 1 hard-boiled egg (1 OZ EQ.)
- ___ 1 tablespoon peanut butter (1 OZ EQ.)
- ___ ¼ cup of pinto beans (1 OZ EQ.)
- ___ 1 slice of turkey (1 OZ EQ.)



Key: (1 OZ EQ.) means (equals 1 ounce equivalent)





Lesson 3:

Vary Your Veggies and Focus on Fruits

Lesson Highlights

Objective

Students will:

- Learn more about the nutritional qualities of fruits and vegetables.
- Brainstorm about ways they can increase their intake of fruits and vegetables.
- Set a goal of eating more fruits and vegetables and develop specific steps to reach their goal.

Curriculum Connections:

Language arts

Student Skills Developed:

- Thinking and analysis
- Writing
- Setting goals

Materials Needed:

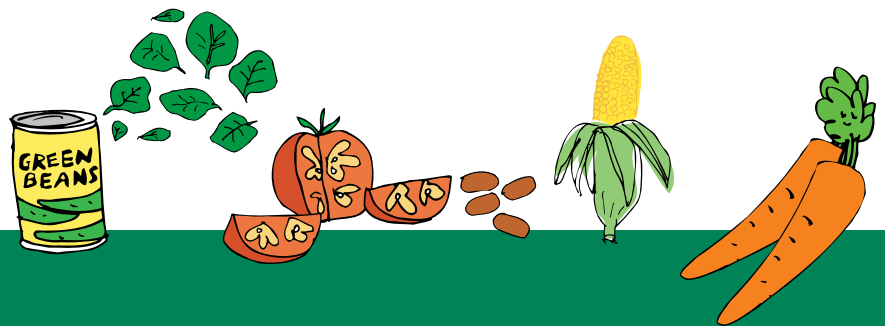
- *Steps to a Healthier You* worksheet for each student

Activity: Vary Your Veggies and Focus on Fruits

- Ask students if they eat fruits and vegetables every day.
- Ask them to name the fruits and vegetables they usually eat.
- Talk to students about the importance of fruits and vegetables. Eating fruits and vegetables can help them be healthy.
 - Fruits and vegetables are excellent sources of many nutrients, including vitamins A and C, potassium, and dietary fiber.
 - Most fruits and vegetables are naturally low in fat and calories and do not contain cholesterol.
 - Vitamin A keeps eyes and skin healthy and helps to protect against infections.
 - Vitamin C helps heal cuts and wounds and keeps teeth and gums healthy.
 - Fiber keeps food moving through the digestive tract.
- Dark green and orange vegetables are important to eat. See if students can name some.
- French fries, which make up one-fourth of all vegetables eaten by elementary school students, are an exception. They are high in fat and calories. A medium order of fries has 460 calories, more than one-fourth the total daily calorie intake appropriate for most 8- and 9-year olds. A medium baked potato, however, has only about 100 calories.

Now pass out the worksheet, *Steps to a Healthier You*.

- Have students review the goal of trying a new fruit and vegetable.
- Ask students what vegetables and fruits they already enjoy. Remember that dried, frozen, or canned fruits and vegetables count, too.
- Have students complete the worksheet.
- Next, have students brainstorm some other ways they can eat more fruits and vegetables. Add these to their worksheet.
- Finally, complete the "Where and How" box.



Ask students to look at the worksheet to see which of the steps they could take to meet their goal of increasing their intake of fruits and vegetables. Have students circle on the worksheet the steps they plan to take. Point out that small changes really add up. Once they try a new food and like it, they can add it to the foods they eat regularly. That's how they can meet their goal.

Note to teacher: Students may add additional ideas on the back of their worksheet.

As students learn about goal-setting, here are some points to remember:

- Success breeds success. Encourage children to set goals they can accomplish. A child who usually chooses only corn and apple juice might set a goal of trying one new fruit this week.
- Take one step at a time. Children do not need to change overnight what they eat. They can start with one new, good thing, and add a new one every day.

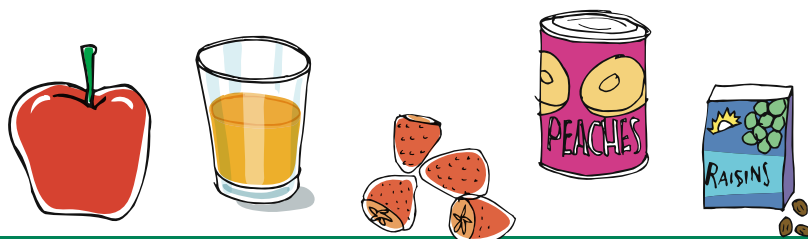
Group Activity: Vegetable Ad Campaign

Have students create an ad campaign for a vegetable. Working in groups, research a dark green or orange vegetable. (They can find information at MyPyramid.gov.) Why is it a nutritious choice? Have students use their creativity to create a poster and perhaps a TV ad – a jingle, a skit – that they can perform for the class.



Lunchroom Link:

Have students review the lunch menu to find out when dark green and orange vegetables are being served. Have them develop signs for the serving line to inform other students. Also, coordinate with the foodservice staff to offer a vegetable/fruit tasting party.



Name: _____

Steps to a Healthier You

My Fruit and Vegetable Goals

Fruits

Circle the names of the fruits you have eaten:

mango papaya kiwifruit cantaloupe
star fruit pineapple strawberry blueberry

Other fruits I have eaten:

Write the name of a fruit you would like to try:

How will you eat this fruit? *(Perhaps on cereal, as a snack, for dessert, with dinner, or on pancakes.)*

Vegetables

Circle the names of the vegetables you have eaten:

spinach collard greens sweet potato
broccoli jicama zucchini squash

Other vegetables I have eaten:

Write the name of a vegetable you would like to try:

How will you eat this vegetable? *(Perhaps for a snack, as a salad, with dip, or for lunch.)*

Where and How

I will try these foods by: asking my parents to purchase them, helping my parents prepare these foods, choosing them from a restaurant menu, eating them from the school lunch menu, or eating them at a friend's house.

Signature

Date

